TOCTOP "08598860

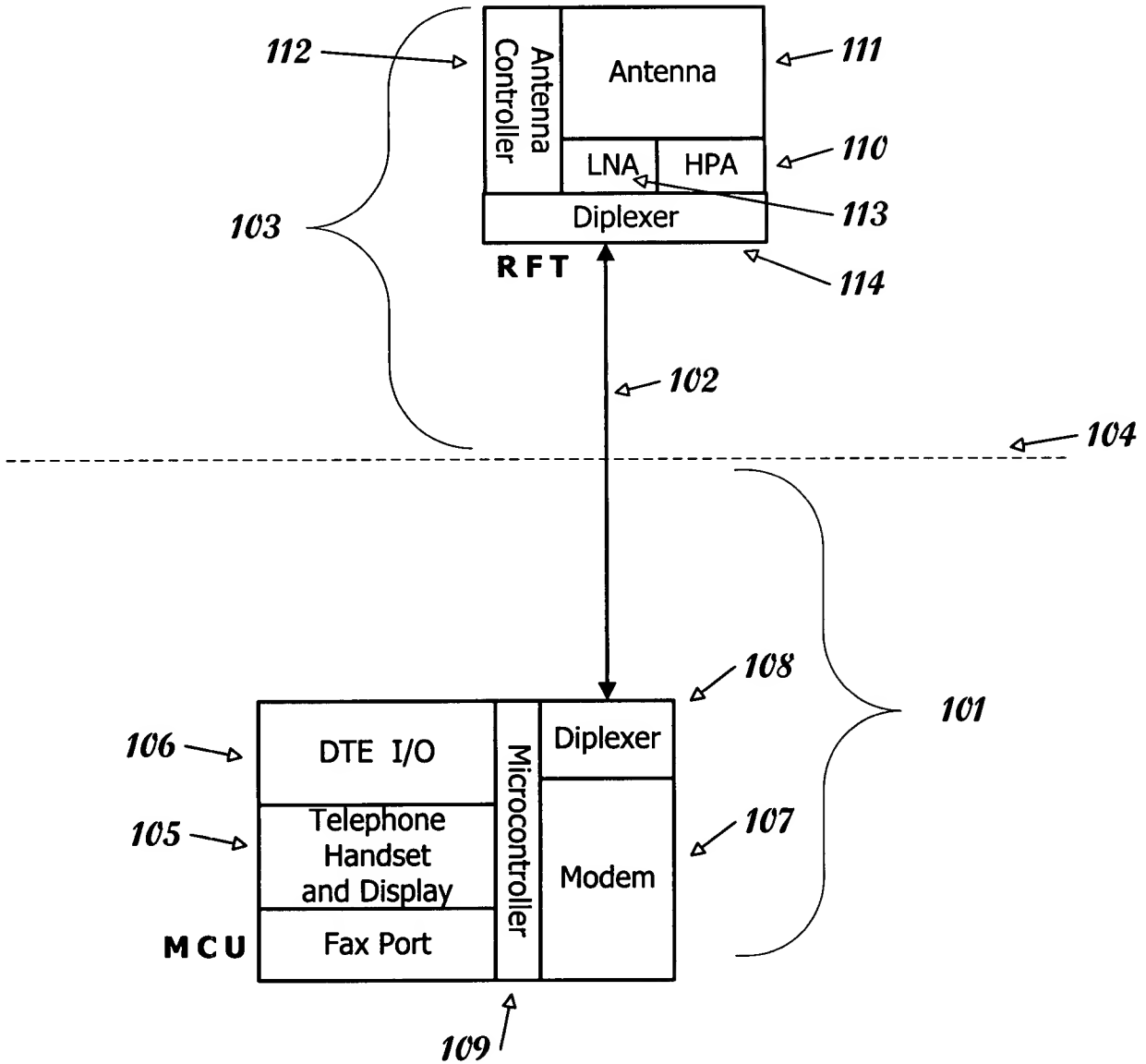



Fig. 1

T06T90 "085860

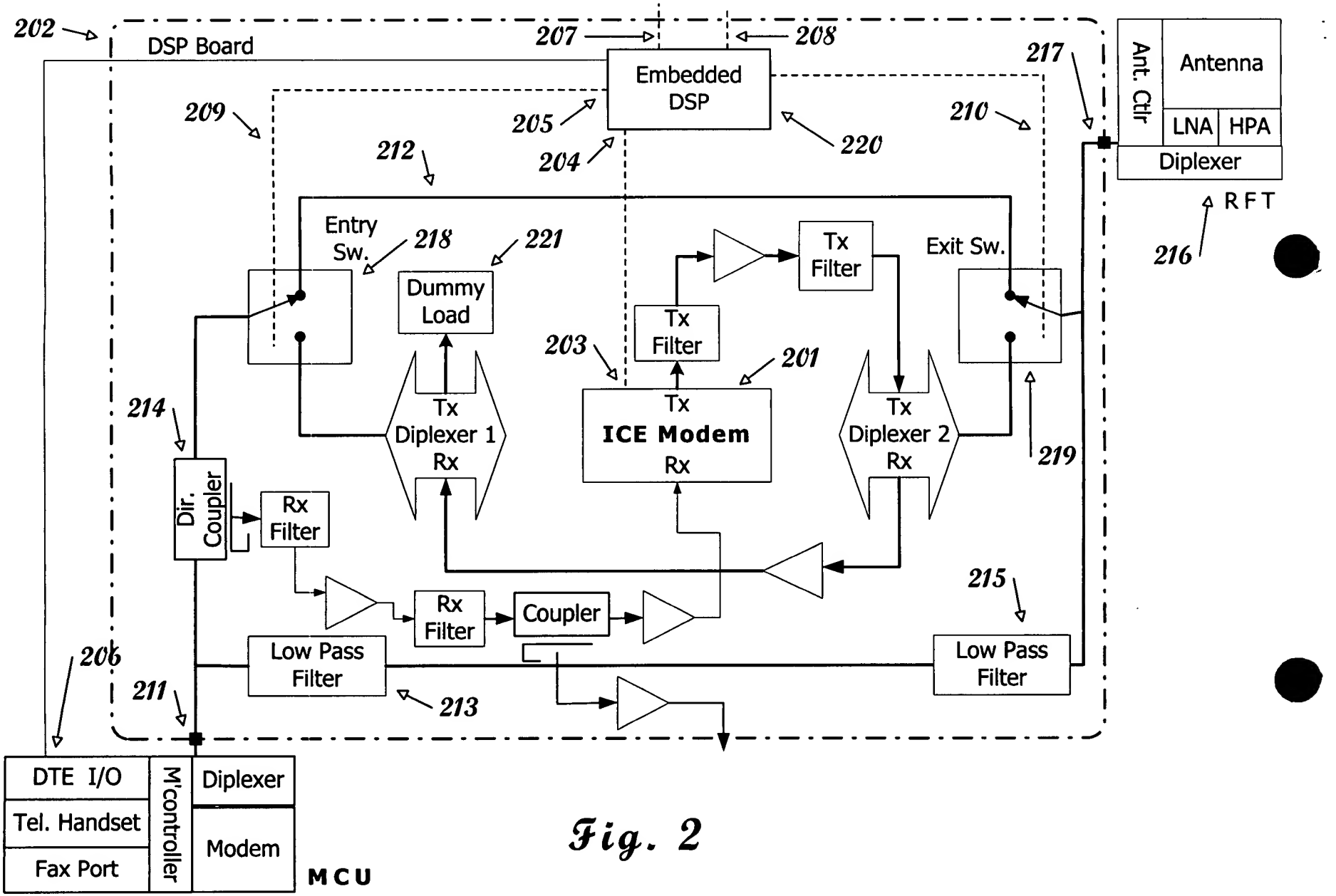



*Fig. 2*

T06T90 0855860

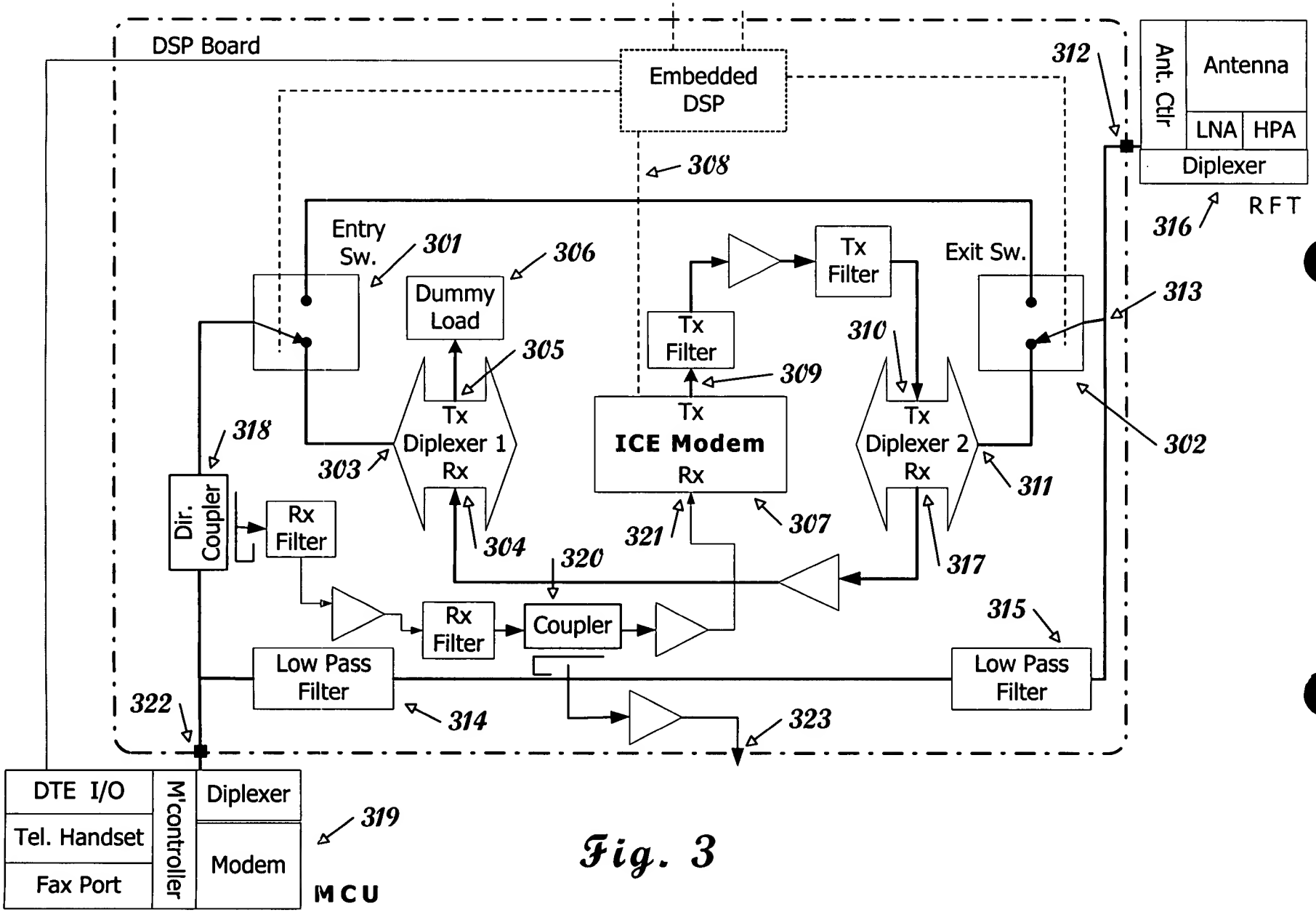



Fig. 3

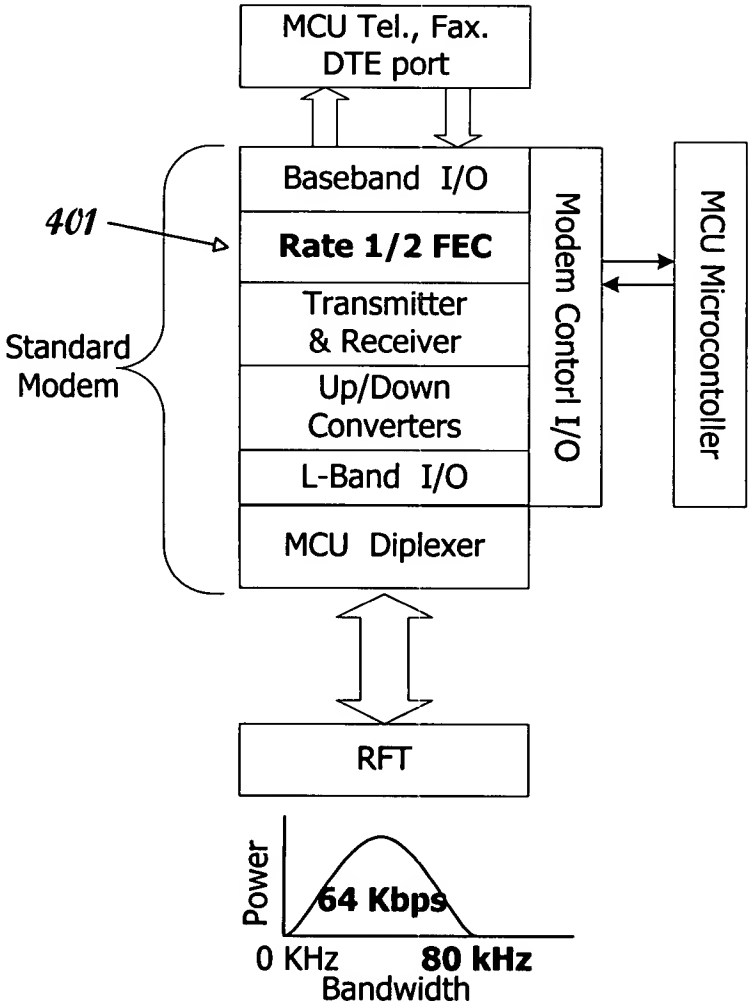

MCU Tel., Fax.
DTE port
401
Baseband I/O
Rate 1/2 FEC
Transmitter
& Receiver
Up/Down
Converters
L-Band I/O
MCU Diplexer
Standard
Modem
Modem Contorl I/O
MCU Microcontoller
RFT
Power
64 Kbps
0 KHz
80 kHz
Bandwidth

Fig. 4

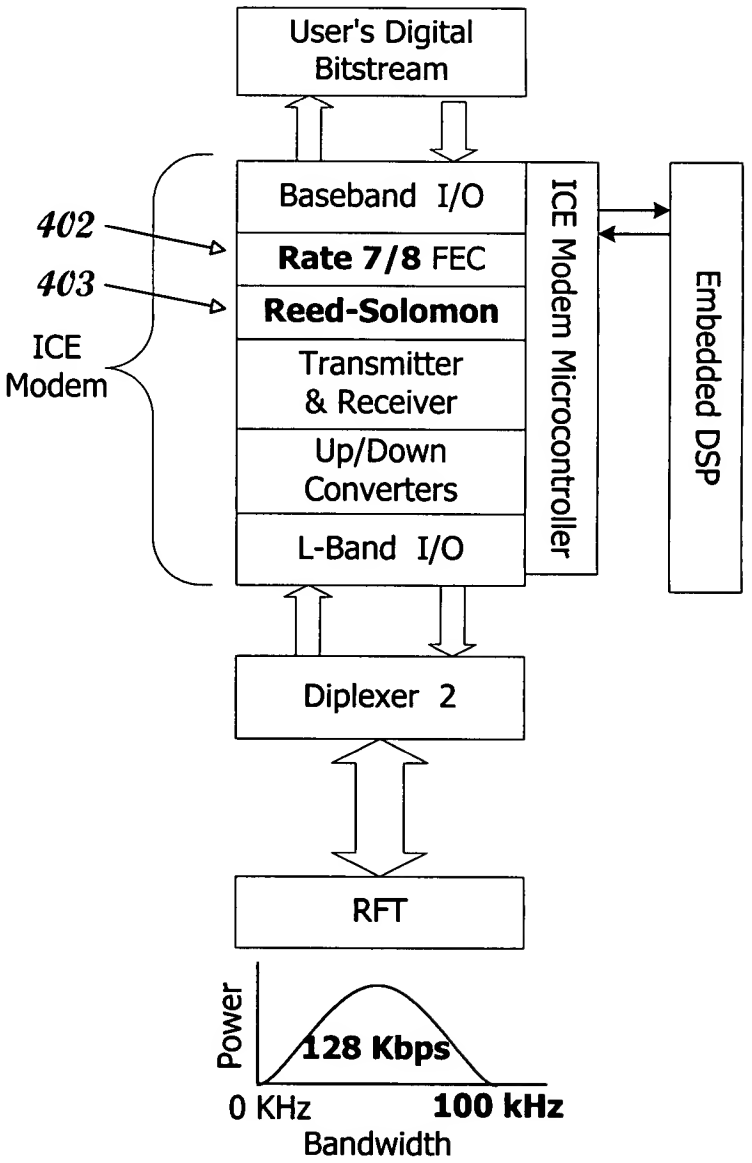
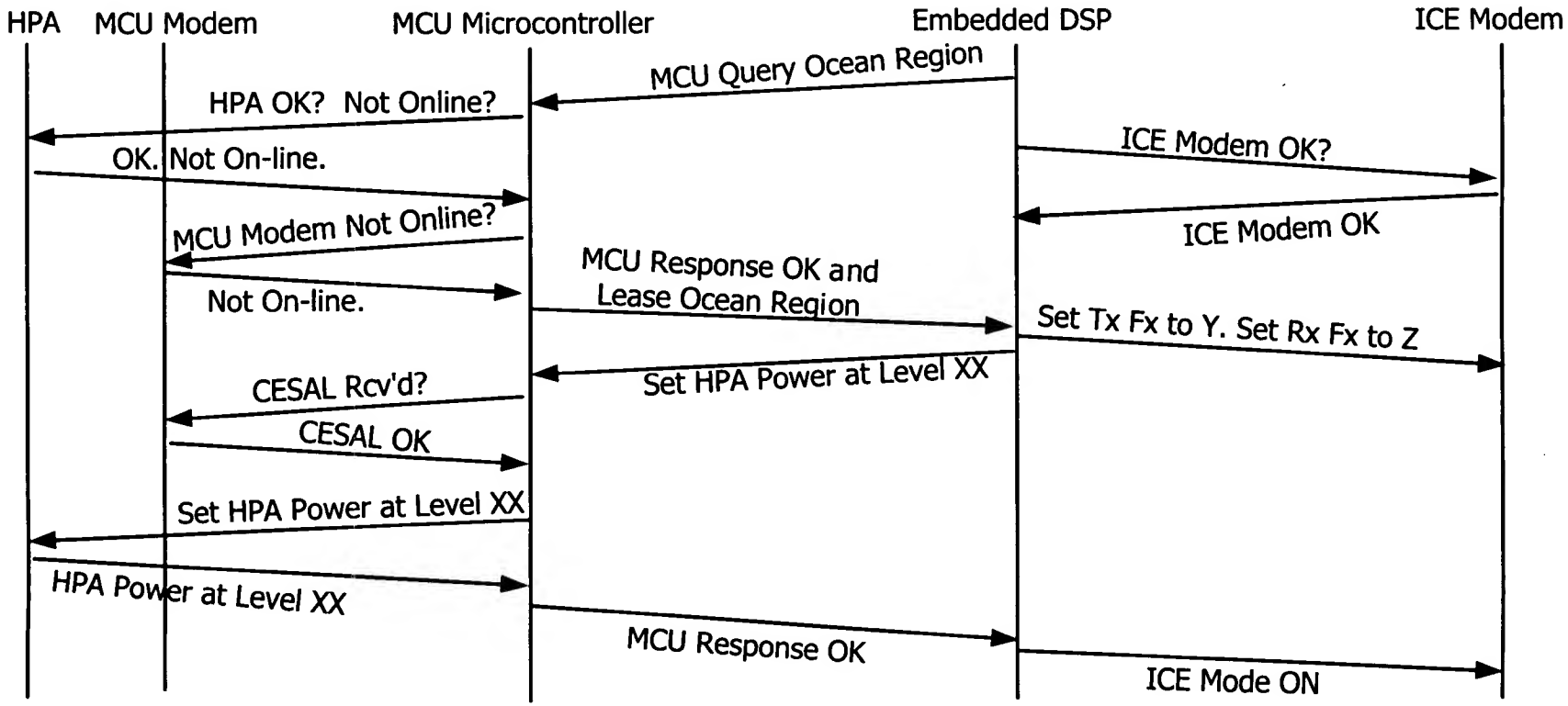

User's Digital
Bitstream
402
403
Baseband I/O
Rate 7/8 FEC
Reed-Solomon
Transmitter
& Receiver
Up/Down
Converters
L-Band I/O
ICE
Modem
ICE Modem Microcontroller
Embedded DSP
Diplexer 2
RFT
Power
128 Kbps
0 KHz
100 kHz
Bandwidth

Fig. 5

| | MCU Status "OK" | Any MCU Status other than "OK", e.g., "Busy" (MCU modem on-line), or "Error" (MCU hardware or software error'. |
|---|---|---|
| HPA availability | HPA available for use by ICE Modem | HPA not available for use by ICE Modem |
| Permitted ICE Status | ICE Mode On or Off, as controlled by Embedded DSP and local user input | ICE Mode Off only, as controlled by Embedded DSP |

*Fig. 6*

*Fig. 7*



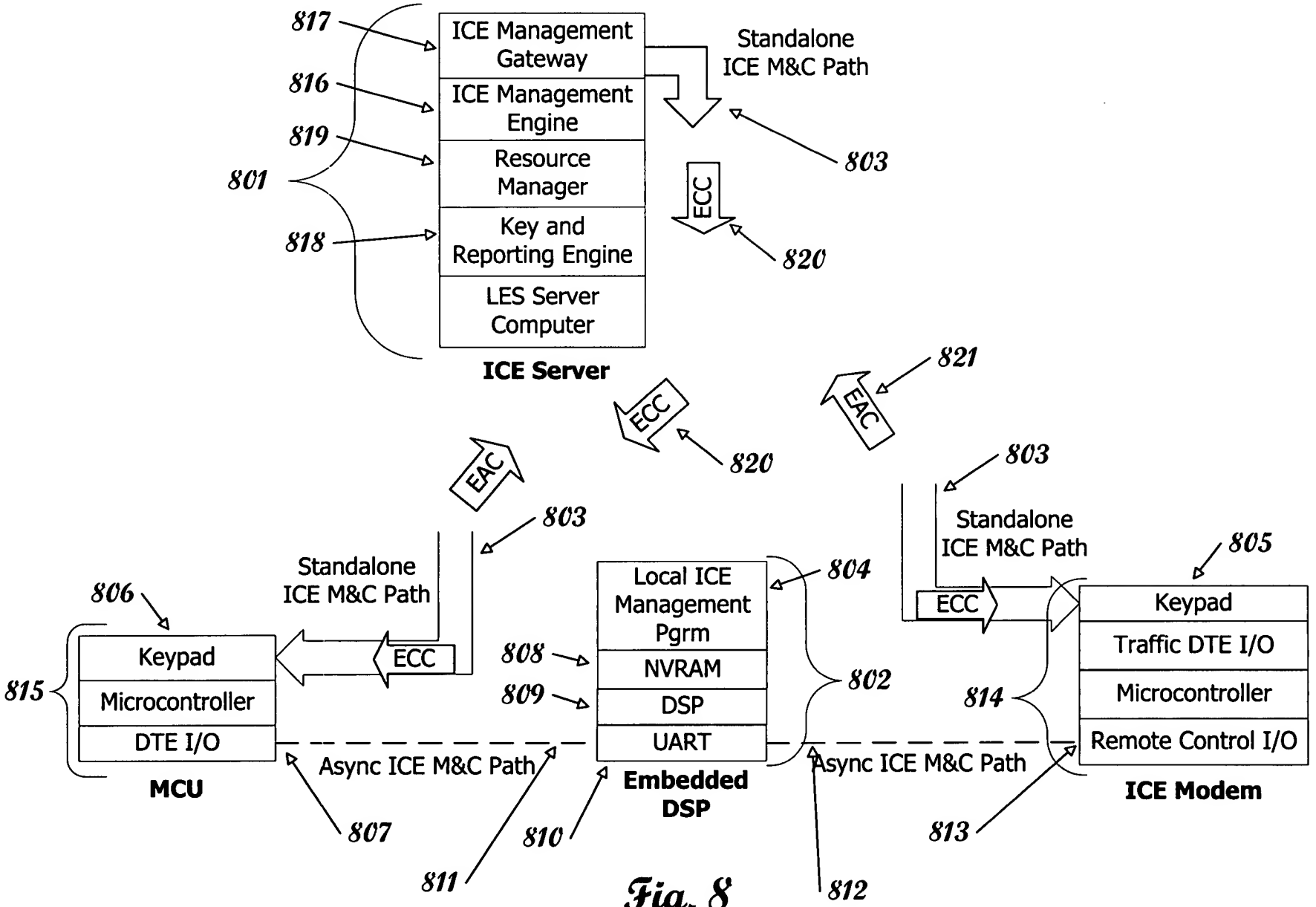

817
816
819
801
818
ICE Management Gateway
ICE Management Engine
Resource Manager
Key and Reporting Engine
LES Server Computer
ICE Server
Standalone ICE M&C Path
803
ECC
820
821
EAC
806
Keypad
Microcontroller
DTE I/O
815
MCU
Standalone ICE M&C Path
ECC
EAC
803
807
Async ICE M&C Path
811
808
809
Local ICE Management Pgrm
NVRAM
DSP
UART
804
802
Embedded DSP
810
812
Async ICE M&C Path
803
Standalone ICE M&C Path
ECC
805
Keypad
Traffic DTE I/O
Microcontroller
Remote Control I/O
814
ICE Modem
813

Fig. 8

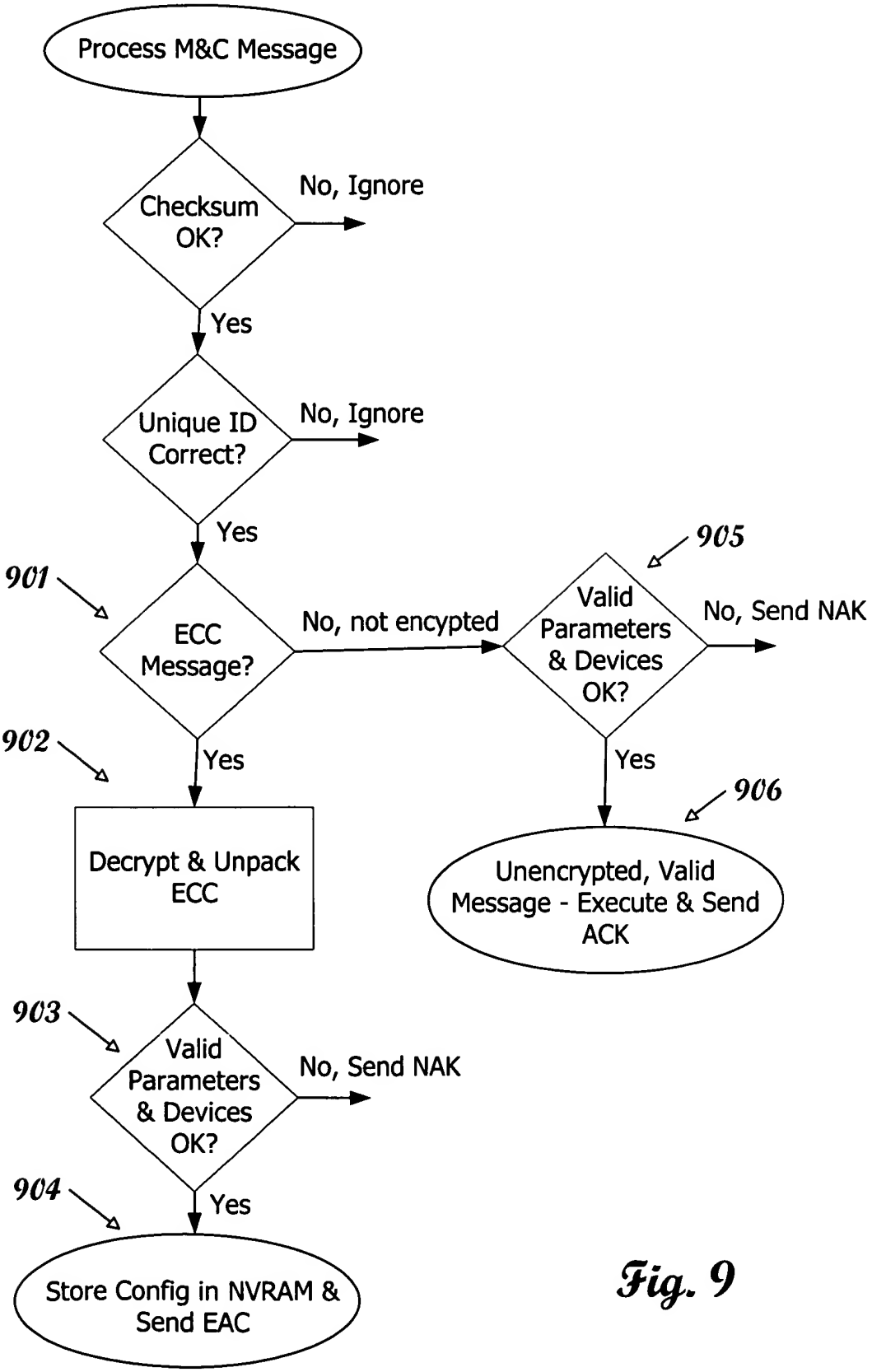

Process M&C Message
Checksum OK?
No, Ignore
Yes
Unique ID Correct?
No, Ignore
Yes
901
ECC Message?
No, not encypted
905
Valid Parameters & Devices OK?
No, Send NAK
Yes
902
Yes
906
Decrypt & Unpack ECC
Unencrypted, Valid Message - Execute & Send ACK
903
Valid Parameters & Devices OK?
No, Send NAK
904
Yes
Store Config in NVRAM & Send EAC

*Fig. 9*

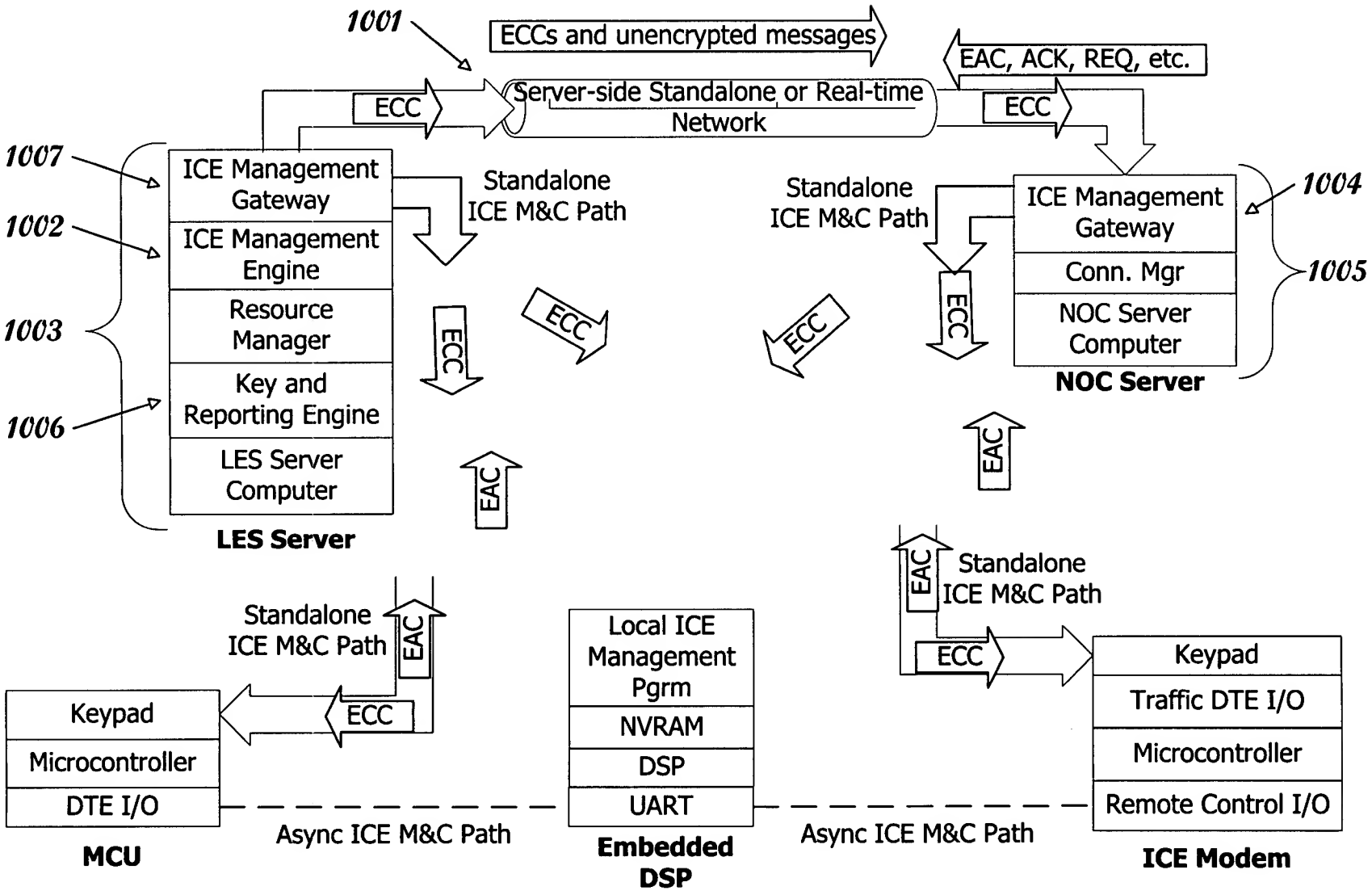

1001
ECCs and unencrypted messages
EAC, ACK, REQ, etc.
ECC
Server-side Standalone or Real-time Network
ECC
1007
1002
1003
1006
ICE Management Gateway
ICE Management Engine
Resource Manager
Key and Reporting Engine
LES Server Computer
LES Server
Standalone ICE M&C Path
ECC
ECC
EAC
Standalone ICE M&C Path
ICE Management Gateway
Conn. Mgr
NOC Server Computer
NOC Server
1004
1005
ECC
ECC
EAC
Standalone ICE M&C Path
EAC
ECC
Standalone ICE M&C Path
Keypad
Microcontroller
DTE I/O
MCU
Async ICE M&C Path
Local ICE Management Pgrm
NVRAM
DSP
UART
Embedded DSP
Async ICE M&C Path
Keypad
Traffic DTE I/O
Microcontroller
Remote Control I/O
ICE Modem

*Fig. 10*

T06T90 "085880

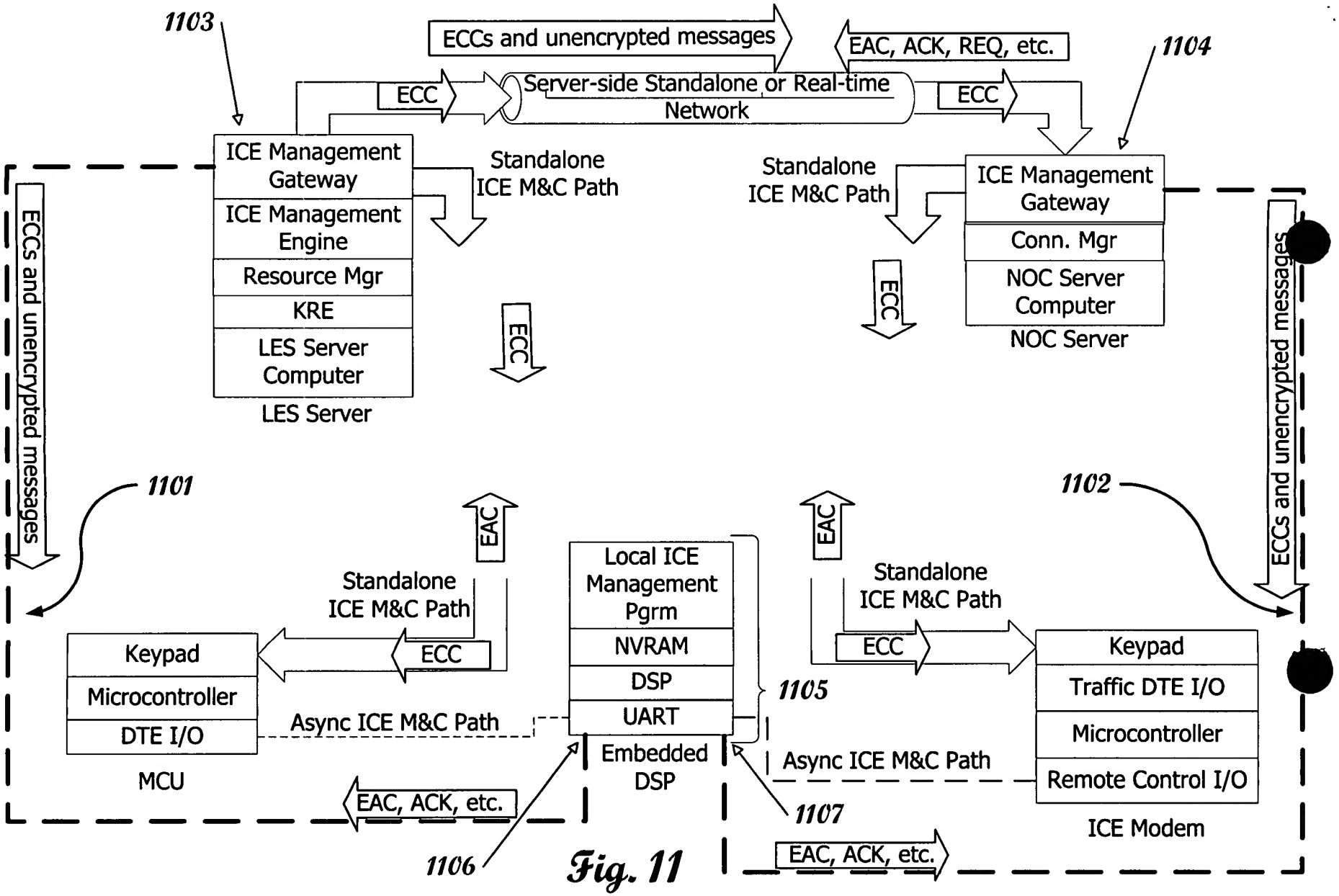



Fig. 11

T06T90 08S8860

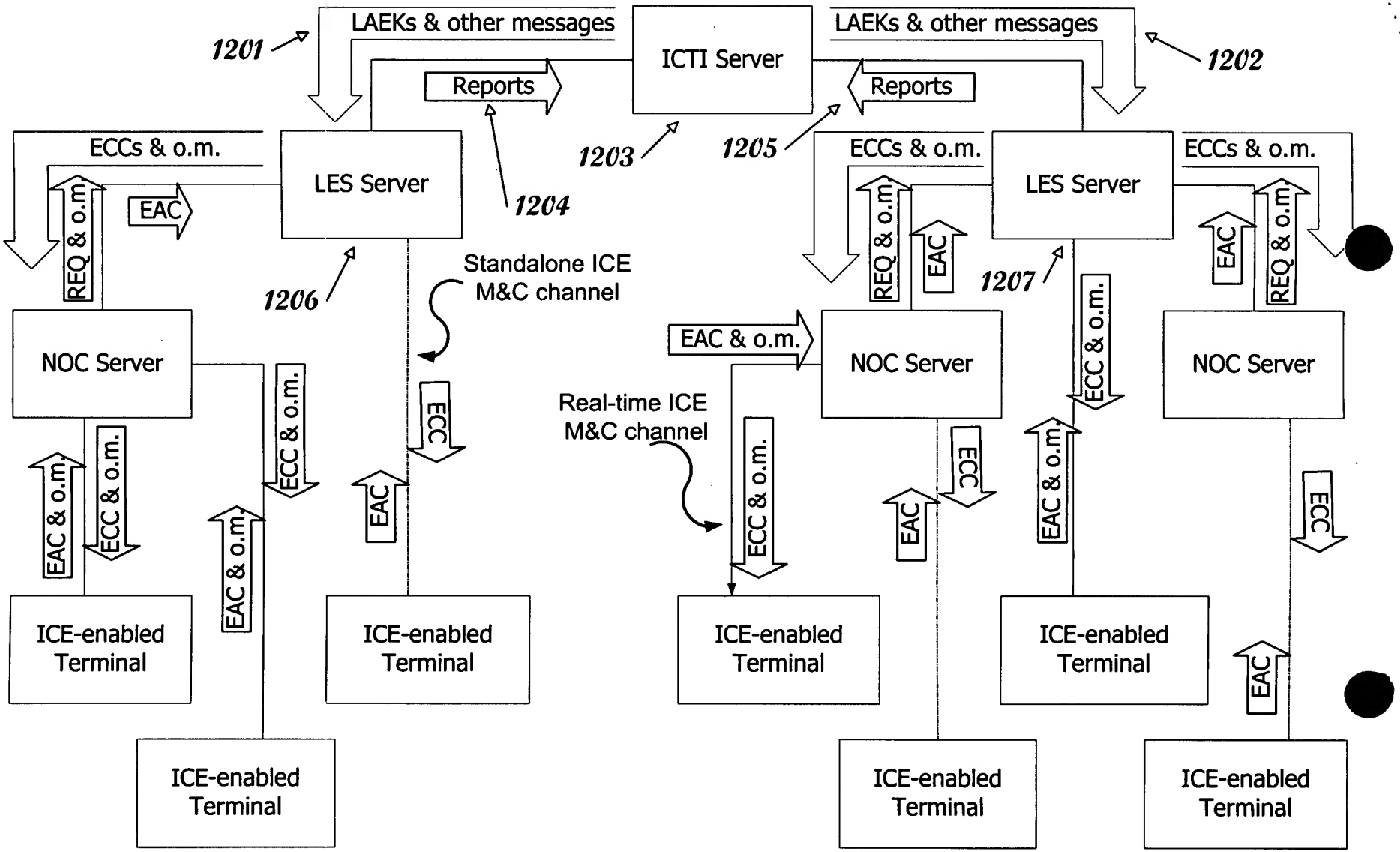



*Fig. 12*

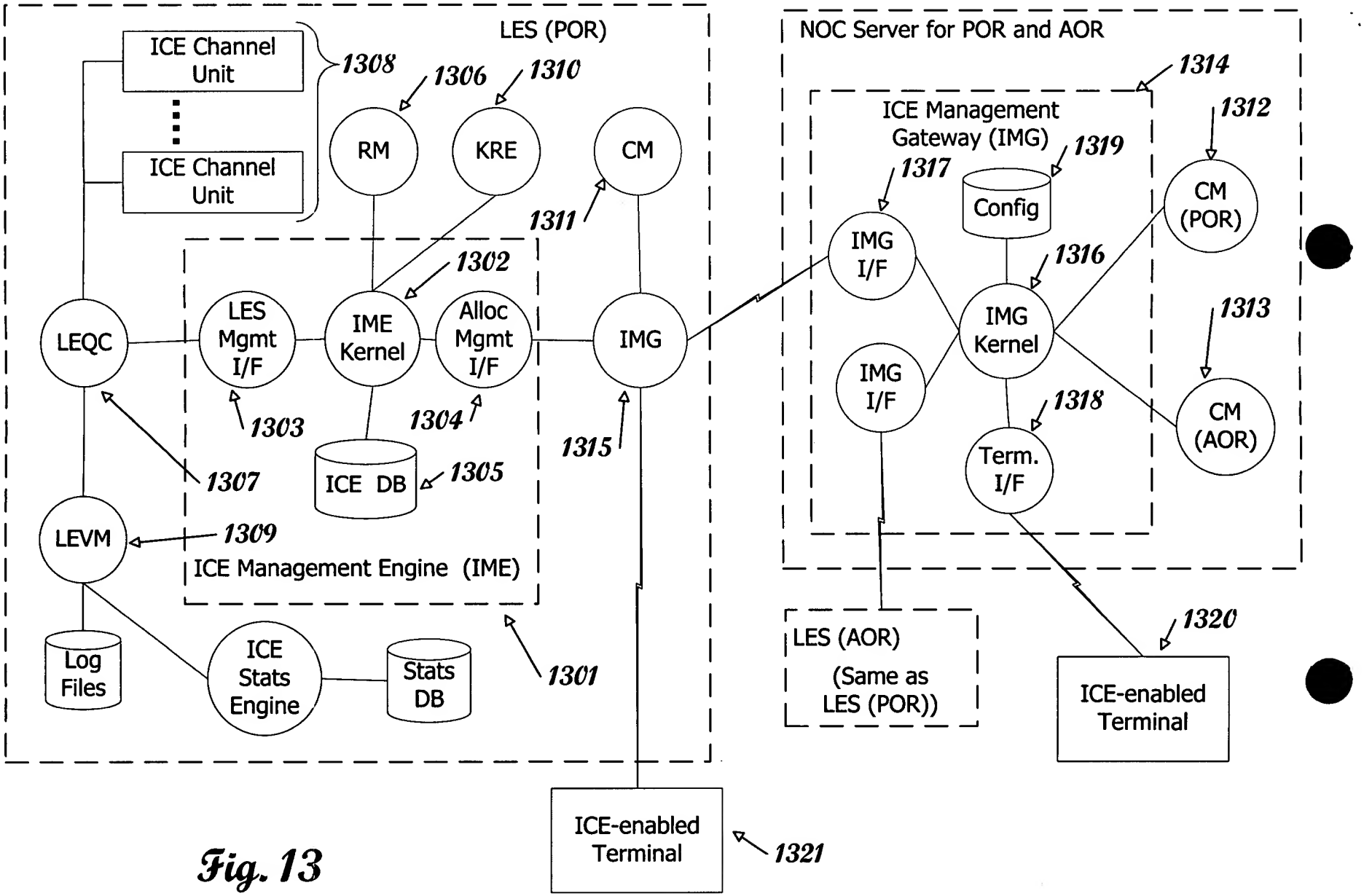

LES (POR)
ICE Channel Unit
ICE Channel Unit
1308
1306
1310
RM
KRE
CM
1311
1302
LEQC
LES Mgmt I/F
IME Kernel
Alloc Mgmt I/F
IMG
1303
1304
1315
1307
ICE DB
1305
LEVM
1309
ICE Management Engine (IME)
Log Files
ICE Stats Engine
Stats DB
1301
NOC Server for POR and AOR
1314
ICE Management Gateway (IMG)
1312
1317
1319
Config
CM (POR)
IMG I/F
1316
IMG Kernel
1313
IMG I/F
1318
CM (AOR)
Term. I/F
LES (AOR)
(Same as LES (POR))
1320
ICE-enabled Terminal
ICE-enabled Terminal
1321

Fig. 13

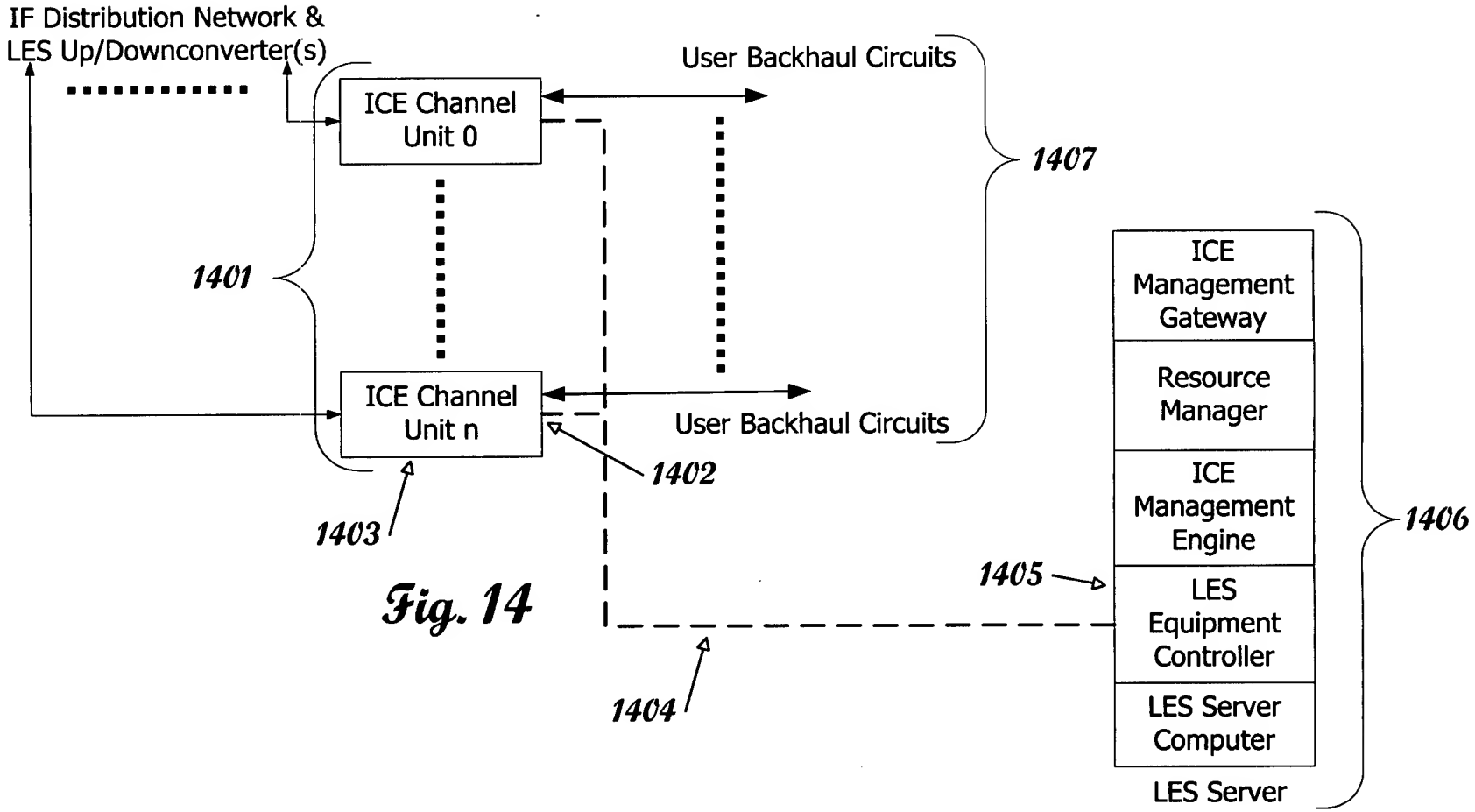

IF Distribution Network &
LES Up/Downconverter(s)
ICE Channel
Unit 0
ICE Channel
Unit n
User Backhaul Circuits
User Backhaul Circuits
1407
1401
1402
1403
1404
1405
1406
ICE
Management
Gateway
Resource
Manager
ICE
Management
Engine
LES
Equipment
Controller
LES Server
Computer
LES Server

*Fig. 14*

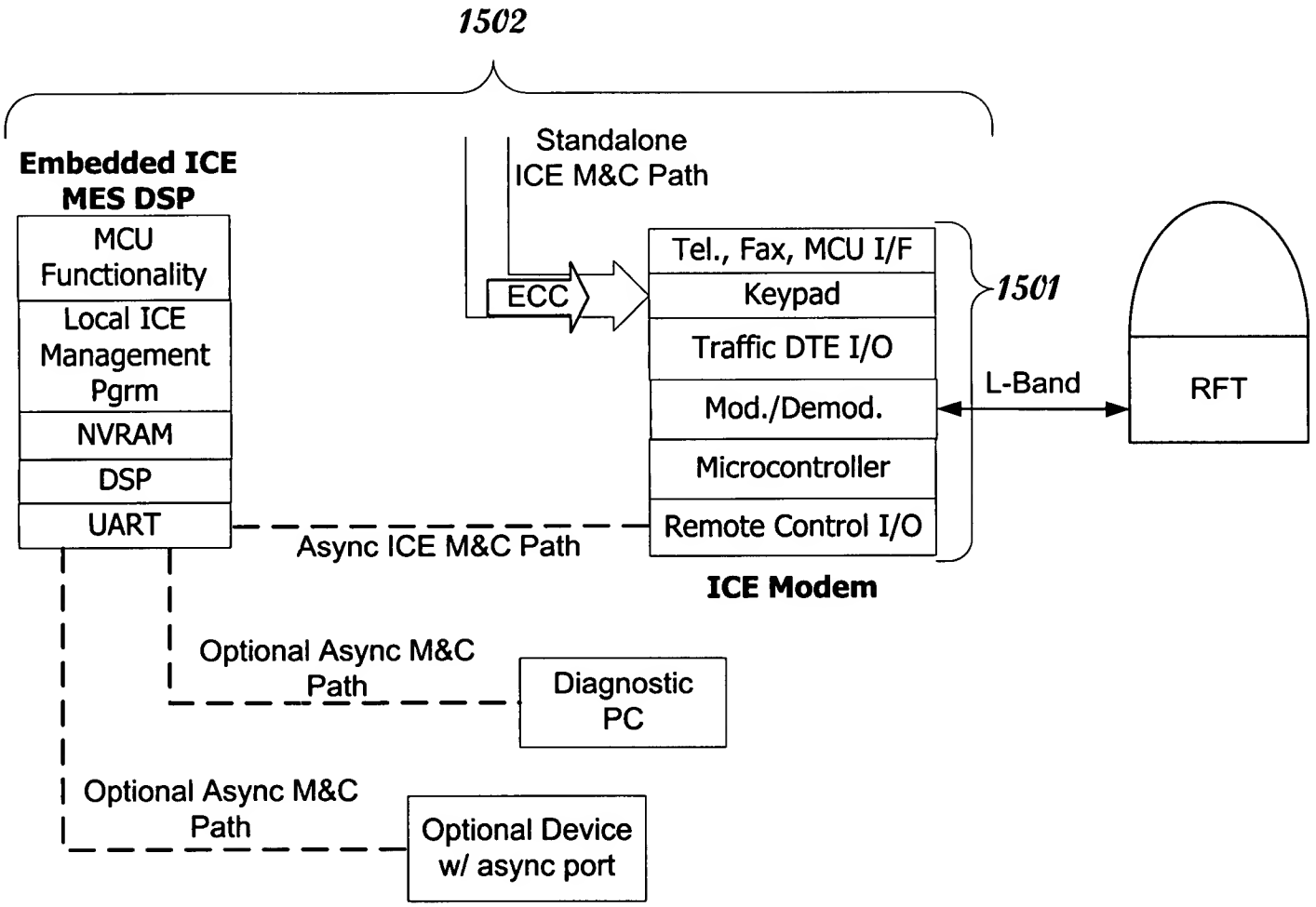

1502
Embedded ICE
MES DSP
MCU Functionality
Local ICE Management Pgrm
NVRAM
DSP
UART
Standalone ICE M&C Path
ECC
Tel., Fax, MCU I/F
Keypad
Traffic DTE I/O
Mod./Demod.
Microcontroller
Remote Control I/O
1501
L-Band
RFT
Async ICE M&C Path
ICE Modem
Optional Async M&C Path
Diagnostic PC
Optional Async M&C Path
Optional Device w/ async port

*Fig. 15*

TD6T90 08552860

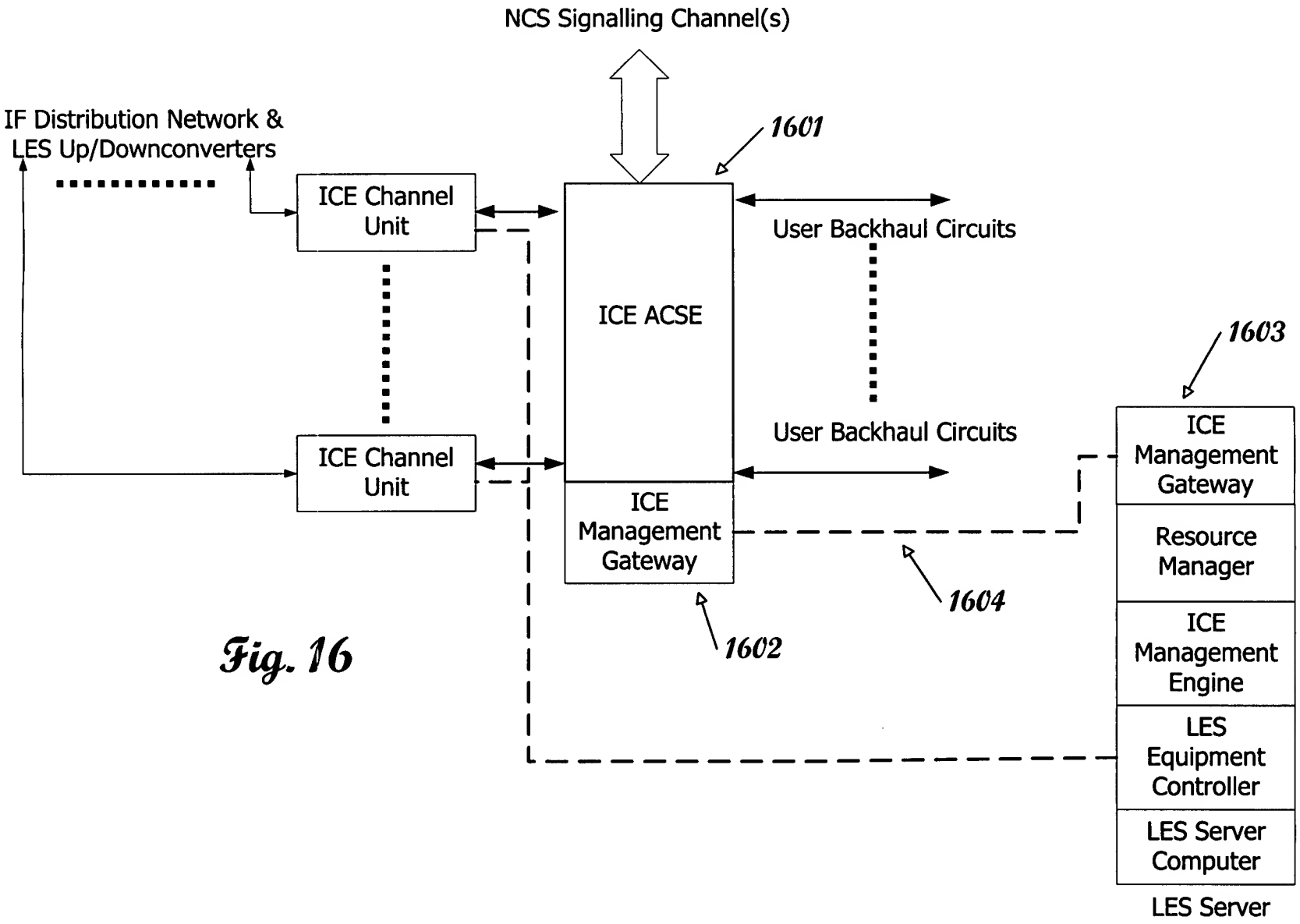



*Fig. 16*

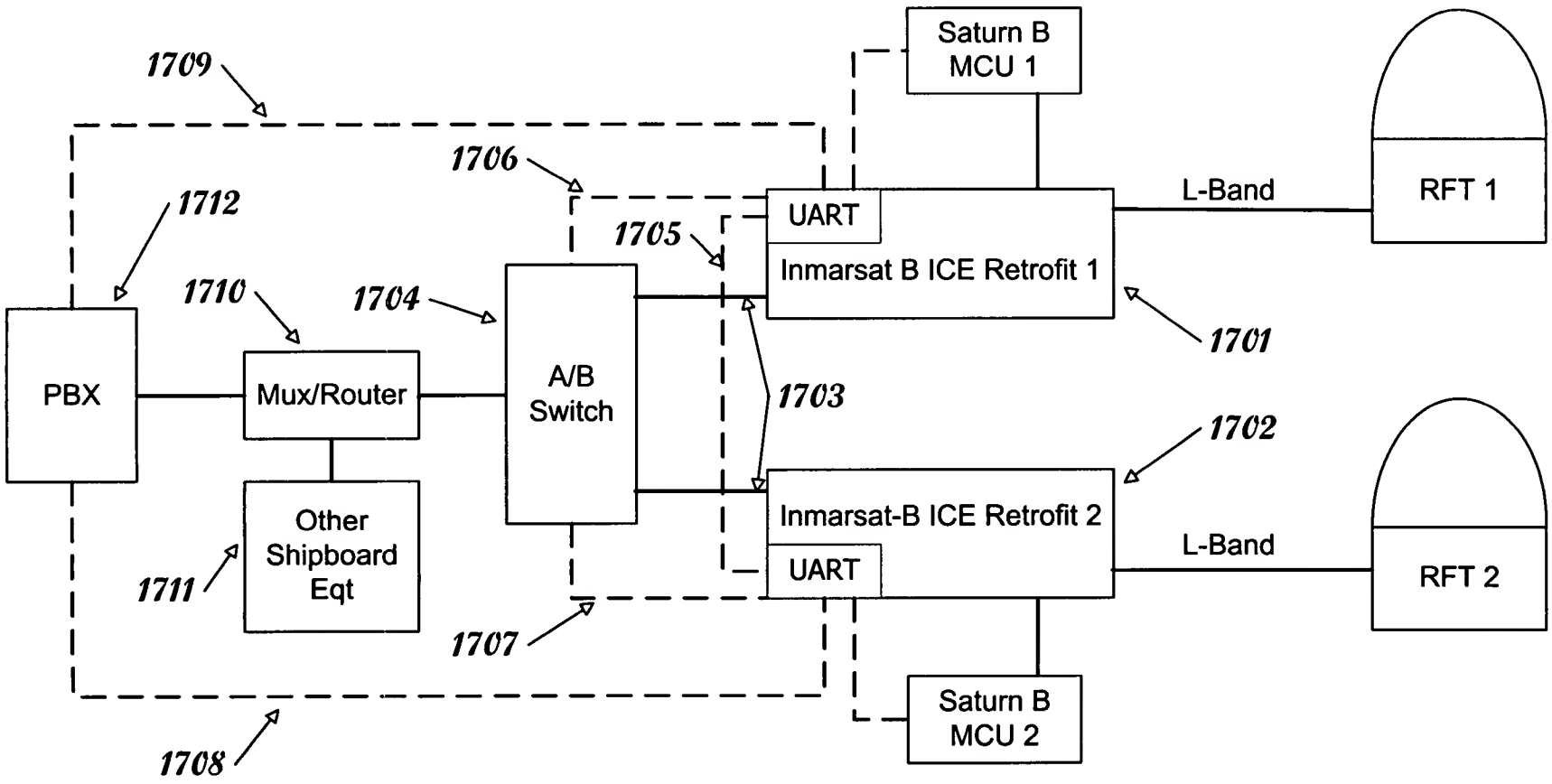

1709
1706
1712
1705
1710
1704
1703
1701
1702
1711
1707
1708
Saturn B MCU 1
UART
Inmarsat B ICE Retrofit 1
L-Band
RFT 1
PBX
Mux/Router
A/B Switch
Other Shipboard Eqt
Inmarsat-B ICE Retrofit 2
UART
L-Band
RFT 2
Saturn B MCU 2

*Fig. 17*

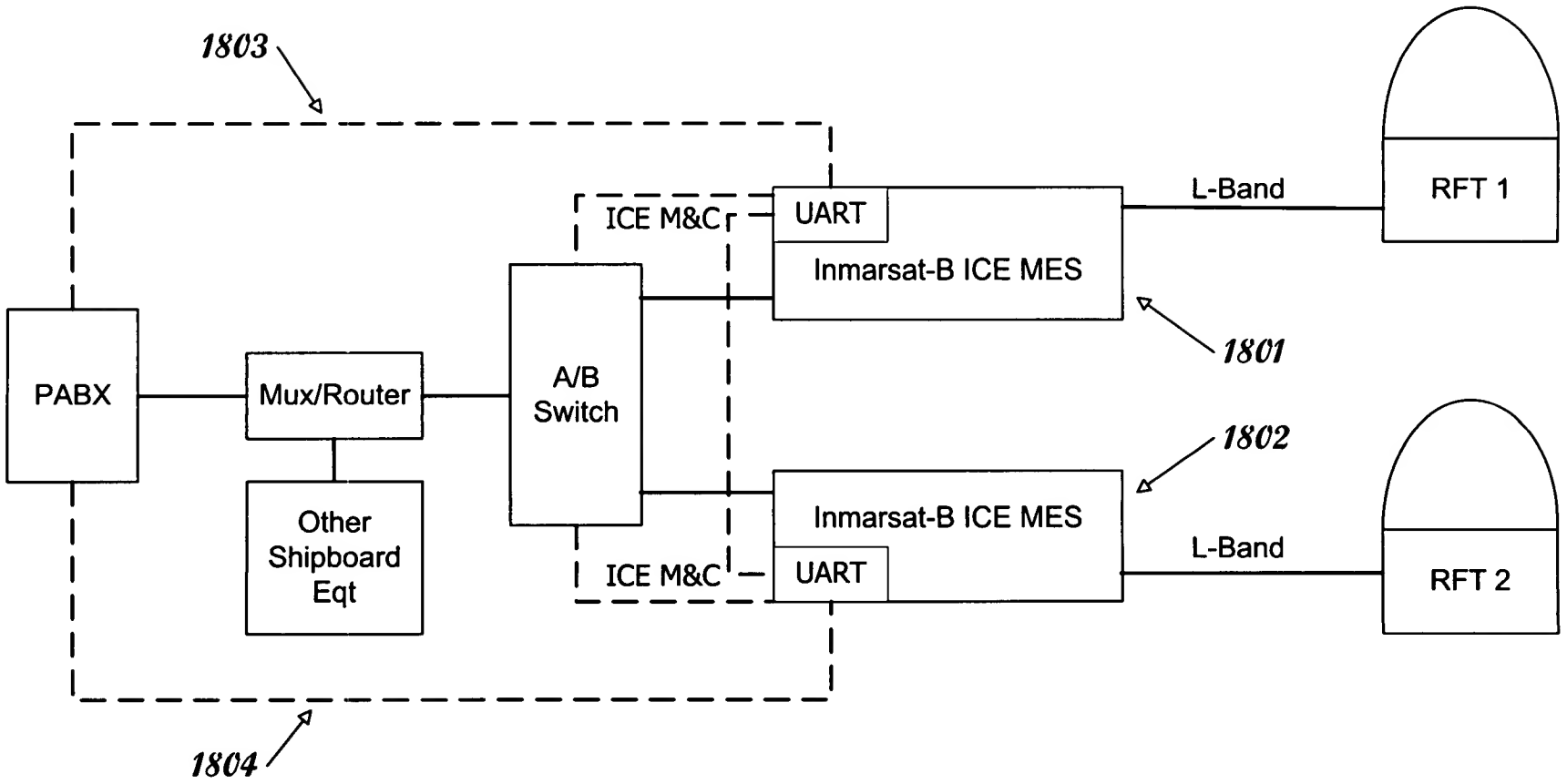

1803
ICE M&C
UART
Inmarsat-B ICE MES
L-Band
RFT 1
1801
PABX
Mux/Router
A/B
Switch
1802
Other
Shipboard
Eqt
Inmarsat-B ICE MES
ICE M&C
UART
L-Band
RFT 2
1804

*Fig. 18*

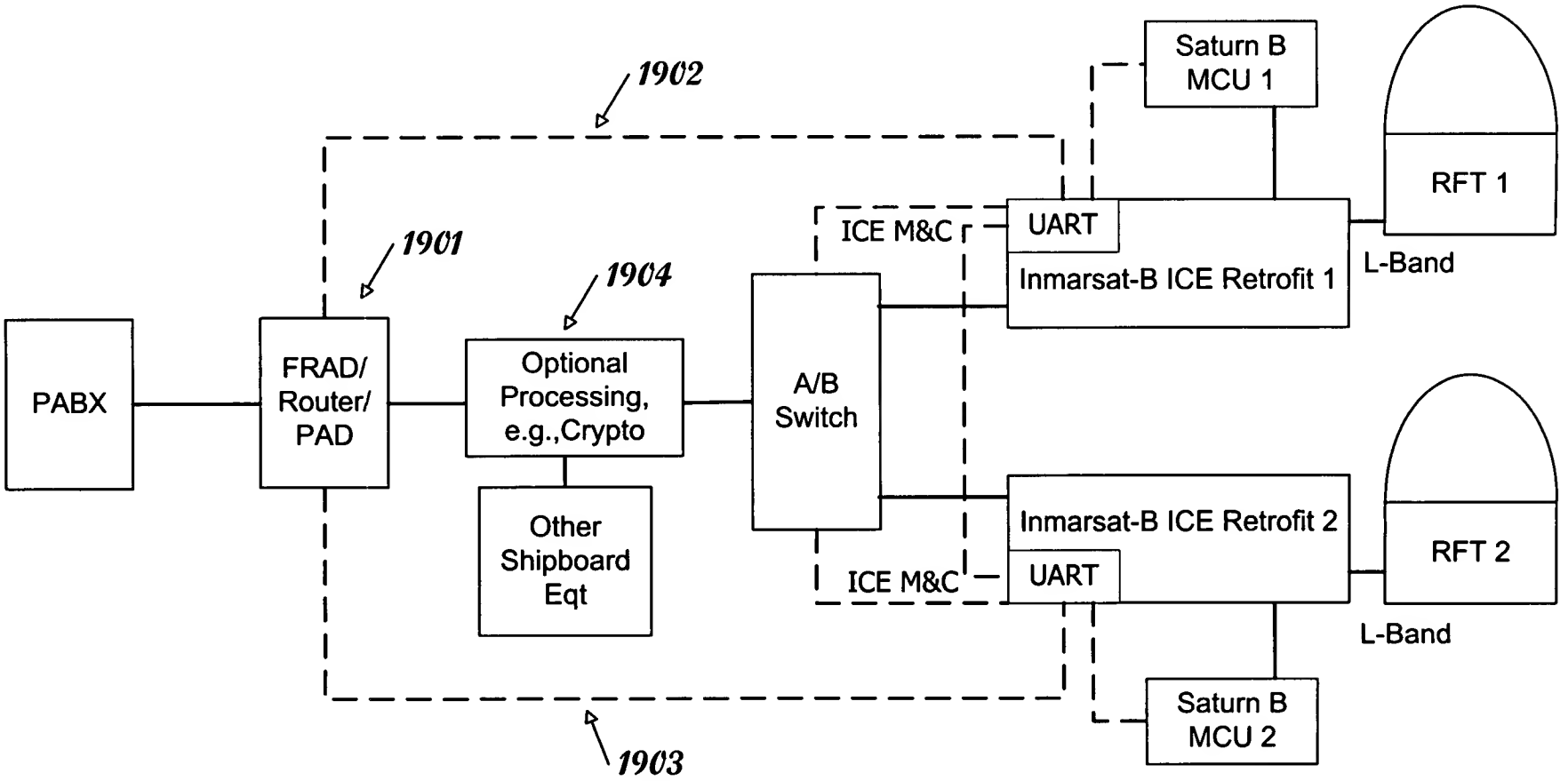

1902
1901
1904
PABX
FRAD/
Router/
PAD
Optional
Processing,
e.g.,Crypto
Other
Shipboard
Eqt
A/B
Switch
ICE M&C
UART
Inmarsat-B ICE Retrofit 1
Saturn B
MCU 1
RFT 1
L-Band
Inmarsat-B ICE Retrofit 2
UART
ICE M&C
RFT 2
L-Band
Saturn B
MCU 2
1903

*Fig. 19*

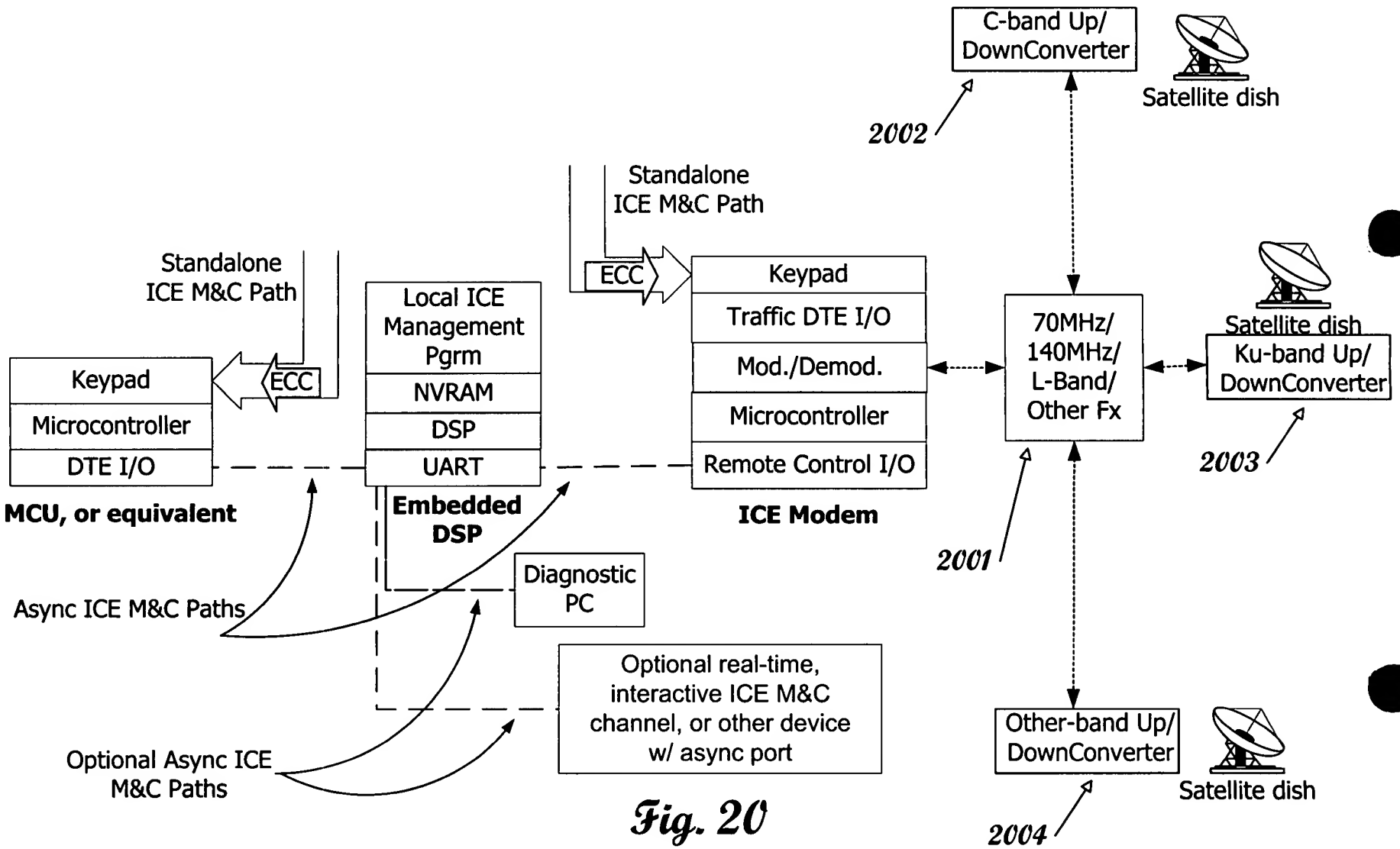

C-band Up/
DownConverter
Satellite dish
2002
Standalone
ICE M&C Path
Standalone
ICE M&C Path
ECC
Keypad
Traffic DTE I/O
Mod./Demod.
Microcontroller
Remote Control I/O
ICE Modem
70MHz/
140MHz/
L-Band/
Other Fx
Satellite dish
Ku-band Up/
DownConverter
2003
Keypad
Microcontroller
DTE I/O
ECC
MCU, or equivalent
Local ICE
Management
Pgrm
NVRAM
DSP
UART
Embedded
DSP
2001
Diagnostic
PC
Async ICE M&C Paths
Optional real-time,
interactive ICE M&C
channel, or other device
w/ async port
Optional Async ICE
M&C Paths
Other-band Up/
DownConverter
Satellite dish
2004

*Fig. 20*

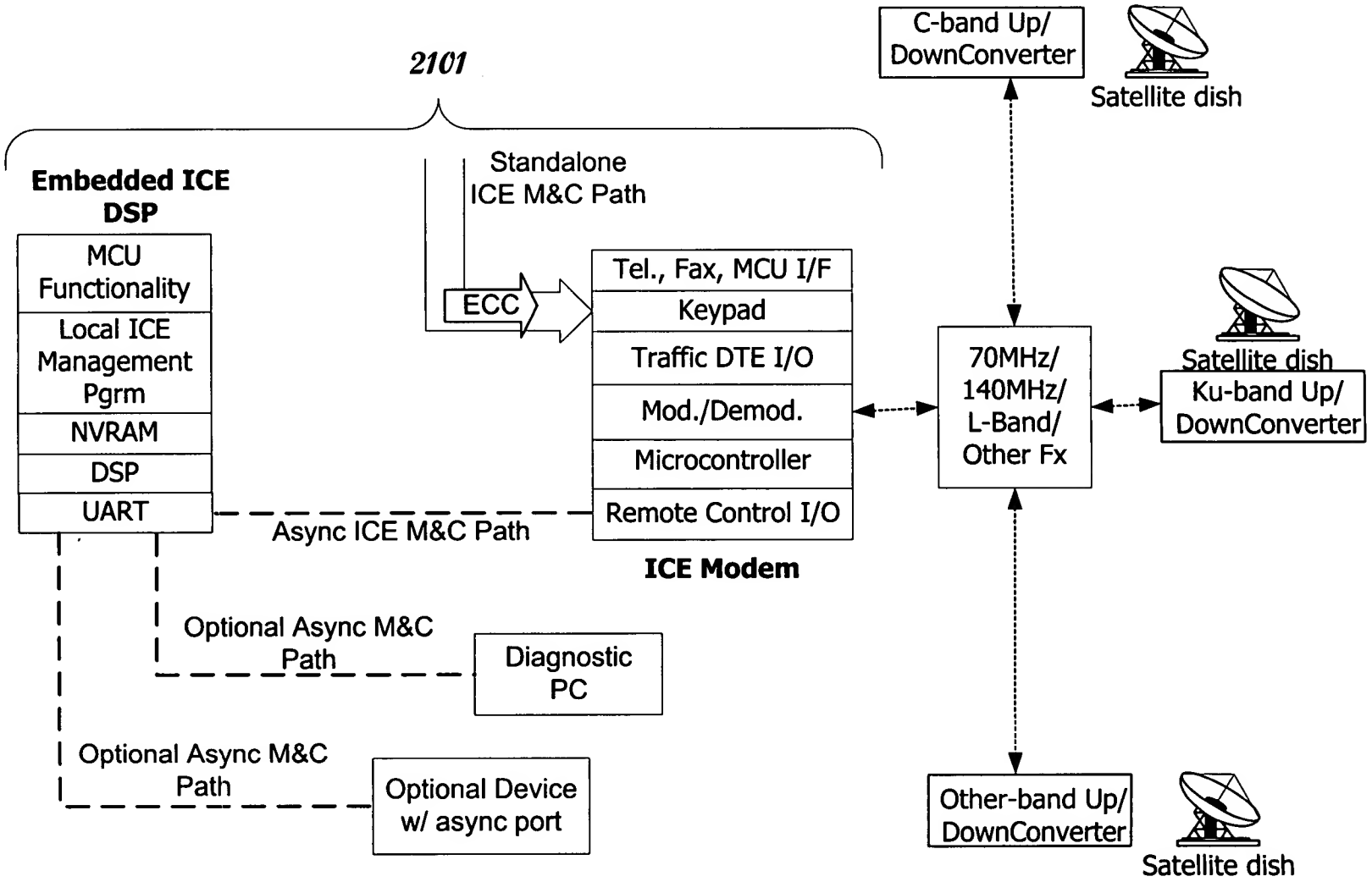

2101
Embedded ICE DSP
MCU Functionality
Local ICE Management Pgrm
NVRAM
DSP
UART
Standalone ICE M&C Path
ECC
Tel., Fax, MCU I/F
Keypad
Traffic DTE I/O
Mod./Demod.
Microcontroller
Remote Control I/O
ICE Modem
Async ICE M&C Path
Optional Async M&C Path
Diagnostic PC
Optional Async M&C Path
Optional Device w/ async port
C-band Up/ DownConverter
Satellite dish
70MHz/ 140MHz/ L-Band/ Other Fx
Satellite dish
Ku-band Up/ DownConverter
Other-band Up/ DownConverter
Satellite dish

*Fig. 21*